February 28, 2007

*Via Electronic Filing*

Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street SW
Washington, DC 20554

Re: WT Docket No. 06-169
*Ex Parte Presentation*

Dear Ms. Dortch:

By letter dated February 15, 2007, Verizon Wireless placed in the record of the above-referenced proceeding a paper[1] critiquing the Broadband Optimization Plan ("BOP"). The BOP was initially proposed by Access Spectrum, LLC ("Access Spectrum"), Pegasus Communications Corporation ("Pegasus"), Intel Corporation ("Intel"), and Columbia Capital III, LLC ("Columbia Capital"),[2] subsequently supported by a wide range of public safety and commercial entities[3] and most recently received the unequivocal endorsement of the National Public Safety Telecommunications Council ("NPSTC") on February 22, 2007.[4]

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[1] "The 700 MHz Guard Bands Are Essential to Stop Potential Interference to Public Safety and Commercial Licensees" ("Verizon Wireless Paper"), filed by letter from Donald C. Brittingham, Director – Spectrum Policy, Verizon Wireless to Marlene H. Dortch, Secretary, FCC, WT Docket No. 06-169 (Feb. 15, 2007).

[2] Comments of Access Spectrum, L.L.C., Columbia Capital III, LLC, Intel Corporation, and Pegasus Communications Corporation, WT Docket No. 96-86, at 13-14 (June 6, 2006).

[3] In addition to the BOP's original proponents, the entities supporting the Broadband Optimization Plan include: the National Public Safety Telecommunications Council (the members of which are the American Association of State Highway Transportation Officials, American Radio Relay League, American Red Cross, Association of Public-Safety Communications Officials-International, Association of Fish & Wildlife Agencies, Forestry Conservation Communications Association, International Association of Chiefs of Police, International Association of Emergency Managers, International Association of Fire Chiefs, International Municipal Signal Association, National Association of State Emergency Medical Services Officials, National Association of State Foresters, National Association of State Telecommunications Directors), Major Cities Chiefs Association, Major County Sheriffs Association, the National Sheriffs Association, the New York State Office for Technology, Motorola (supports a slightly modified version of the BOP), Northrop Grumman, Arcadian Networks, Enterprise Wireless Alliance, SDR Forum, the WiMAX Forum and the following 700 MHz Regional Planning Committees: Region 4 (Arkansas), Region 5 (Southern California), Region 7 (Colorado), Region 8 (Metropolitan New York City Area), Region 9 (Florida), Region 10 (Georgia), Region 11 (Hawaii), Region 13 (Illinois except Southern Lake Michigan counties),

This letter contains a detailed refutation of Verizon Wireless' critique[5] and is intended to reinforce NPSTC's conclusion in its letter of February 23, 2007 that "[t]he Verizon objection should be rejected. The [BOP] provides meaningful relief to public safety. It will promote public safety access to broadband. NPSTC urges the Commission to implement the proposal in its decisions addressing the 700 MHz band."[6] In short, Public Safety has spent the last nine months closely analyzing and scrutinizing the BOP and has concluded that it will meaningfully improve public safety communications in the years ahead. The BOP does no harm to any commercial operations, and the alternative offered by Verizon Wireless has been specifically rejected by Public Safety because it is inferior to the BOP, as NPTSC noted in its letter to the FCC on February 23.[7] The public safety community has spoken: the BOP should be adopted immediately.

Throughout this response, we will refer to the BOP as it was proposed by Access Spectrum, Pegasus, Intel and Columbia Capital and that has been further detailed and explained in the reports of the 700 MHz Technical Working Group ("TWG").[8] The TWG is an open, voluntary and informal group of some of the industry's foremost technical specialists from public safety entities, equipment vendors, and licensees in the 700 MHz band.[9] The TWG has

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Region 14 (Indiana except Southern Lake Michigan counties), Region 17 (Kentucky), Region 22 (Minnesota), Region 24 (Missouri), Region 26 (Nebraska), Region 30 (New York - Albany area), Region 32 (North Dakota), Region 33 (Ohio), Region 35 (Oregon), Region 39 (Tennessee), Region 45 (Wisconsin except Southern Lake Michigan counties), Region 54 (Chicago – Southern Lake Michigan counties) and Region 55 (New York – Buffalo).

[4] Letter from Vincent R. Stile, Chair, National Public Safety Telecommunications Council, to Marlene H. Dortch, Secretary, FCC, WT Docket Nos. 06-169, 96-86, and 06-150, and PS Docket No. 06-229 (Feb. 22, 2007) ("NPSTC Feb. 22 Letter").

[5] AT&T, in a letter to the Commission dated February 23, 2007, makes similar allegations. Letter from Robert W. Quinn, Jr., Senior Vice President Federal Regulatory, AT&T Services, Inc., to Marlene H. Dortch, Secretary, FCC, WT Docket Nos. 06-169, 96-86, and 06-150 (Feb. 23, 2007). This response to the Verizon Wireless Paper addresses many of AT&T's concerns. We intend to address the balance of AT&T's allegations in a subsequent filing.

[6] Letter from Vincent R. Stile, Chair, National Public Safety Telecommunications Council, to Marlene H. Dortch, Secretary, FCC, WT Docket Nos. 06-169, 96-86, and 06-150, and PS Docket No. 06-229, at 3 (Feb. 23, 2007) ("NPSTC Feb. 23 Letter").

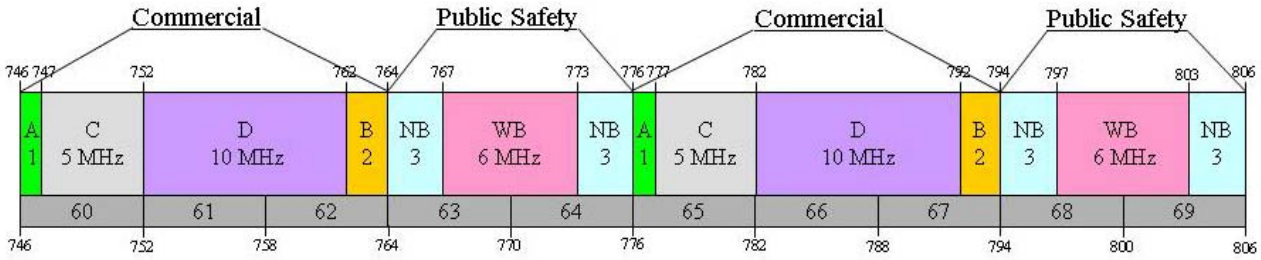
[7] NPSTC Feb. 23 Letter at 3.

[8] The first Report of the 700 MHz Technical Working Group was transmitted via letter from Ruth Milkman, Counsel for Access Spectrum, LLC and Kathleen Wallman, Adviser to Pegasus Communications Corp., WT Docket Nos. 06-169 and 96-86 (Oct. 23, 2006) ("First TWG Report"); the Second Report of the 700 MHz Technical Working Group was transmitted via letter from Ruth Milkman, Counsel for Access Spectrum, LLC and Kathleen Wallman, Adviser to Pegasus Communications Corp., WT Docket Nos. 06-169 and 96-86 (Jan. 26, 2007) ("Second TWG Report").

[9] First TWG Report at 1-2; Second TWG Report at 1-2. The meetings of the TWG were regularly attended by representatives from NPSTC, the State of New York, Motorola, M/A-

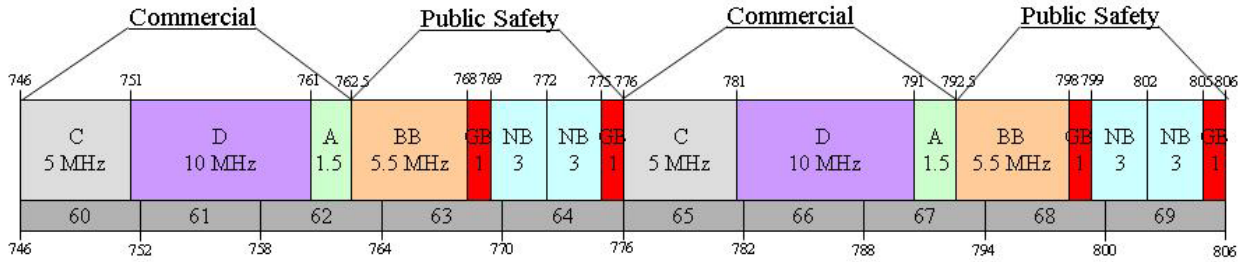
conducted thorough and in-depth analyses of the BOP, determined that there are no technical impediments to adopting the BOP, and recommended to the Commission specific rule changes to effectuate the adoption of the BOP.[10] NPSTC has embraced the results of both the First and Second Reports of the TWG.[11] For ease of reference, the current Upper 700 MHz band plan and the BOP are reproduced below:

Current Band Plan




WB=Wideband; NB=Narrowband

Broadband Optimization Plan ("BOP")




BB=Broadband; NB=Narrowband; GB=Guard Band

## I. Introduction

The BOP is being advanced by leading public safety organizations and many commercial entities because it reduces the potential for interference to public safety operations and increases the amount of broadband spectrum to both public safety and commercial entities. In short, the BOP:

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COM, Access Spectrum LLC, and Pegasus Communications Corporation. Representatives from APCO, IACP and IAFC were kept abreast of the TWG's progress.

[10] Second TWG Report at 2 and Apps. D-F.

[11] Letter from Vincent R. Stile, Chair, National Public Safety Telecommunications Council, to Marlene H. Dortch, Secretary, FCC, WT Docket Nos. 06-169 and 96-86 (Dec. 6, 2006, filed Dec. 7, 2006) ("NPSTC Dec. 6 Letter"); NPSTC Feb. 22 Letter.

- Results in an additional 3 MHz of usable broadband spectrum for both the public safety and commercial allocations, provides enough additional spectrum to Public Safety to permit it to manage its own guard bands, and presents Public Safety with the unique opportunity to allocate specific spectrum for much-needed "talk-around" capabilities;
- Reduces the potential for harmful interference to both Public Safety and neighboring commercial systems in part by requiring, with Public Safety's agreement, the use of guard bands and buffer spaces within Public Safety's allocation;
- Makes the Upper 700 MHz band more attractive for 4G technologies, to new entrants and for public-private partnerships; and
- Is good for Public Safety, good for future commercial licensees and good public policy.

We share the goals Verizon Wireless outlined in its comments on October 23, 2006, insofar as it states that it

> generally supports rules that provide greater technical, operational and regulatory flexibility to licensees. Such rules generally facilitate the more rapid introduction of new technologies and services and lead to more efficient and effective use of the radiofrequency spectrum. However, such flexibility can frustrate these important goals if it results in increased interference to licensees.[12]

As such, and as noted previously, some of the industry's foremost specialists from public safety entities, equipment vendors, and the commercial licensees have been studying the implications of the BOP for nine months to ensure that there is no increase in interference to any licensees, so as to achieve the goal of increased flexibility to licensees. During this period, the TWG considered and resolved, through rigorous analysis, all of the issues Verizon Wireless identified and demonstrated conclusively that the BOP reduces the potential for harmful interference to both Public Safety and neighboring commercial systems. Verizon Wireless, on the other hand, did not accept multiple invitations to work with us and our public safety and commercial partners.[13] Instead, Verizon Wireless filed a paper that either ignores or misunderstands the detailed technical recommendations in the BOP.

The balance of this letter is devoted to summarizing the virtues of the BOP, which have been discussed at length in the record, as well as responding to and refuting Verizon Wireless' critique of the BOP. Given the broad support from the public safety community and commercial entities, the extremely thorough review by the TWG, and the overwhelming technical support

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[12] Comments of Verizon Wireless, WT Docket Nos. 06-169 and 96-86 (Oct. 23, 2006) at 2.

[13] Reply Comments of Access Spectrum and Pegasus, WT Docket Nos. 06-169 and 96-86 (Nov. 13, 2006) at 16; Letter from Michael I. Gottdenker, Chairman and CEO, Access Spectrum, and Marshall W. Pagon, Chairman and CEO, Pegasus Communications Corporation, to Marlene H. Dortch, Secretary, FCC, WT Docket Nos. 05-211, 06-150 and 06-169, at 3 (Dec. 18, 2006).

provided in the two TWG reports and this paper, the FCC should proceed per NPSTC's suggestion, to "integrate the guard band restructuring as set forth in the TWG reports into its imminent decisions addressing the 700 MHz commercial and public safety segments to ensure that the benefits to public safety will not be lost."[14]

## II. Overview: Guard Bands, Buffer Spectrum and Interference Protection

Verizon Wireless' critique of the BOP centers on two general—and incorrect—allegations: (1) that the BOP would eliminate existing guard bands even though they remain necessary to separate potentially incompatible operations; and (2) that the BOP would increase the risk of harmful interference to public safety operations. This section briefly rebuts these allegations; additional details are provided in Sections III and IV below.

### A. The BOP Would Retain Necessary Separation Between Potentially Incompatible Operations

Verizon Wireless devotes a considerable portion of its paper to explaining the importance of spectrum buffers, or "guard bands," to separate potentially incompatible operations.[15] It focuses on three specific interfaces: the one at 776 MHz between public safety narrowband and commercial operations; the interface at 762.5/792.5 MHz between public safety non-narrowband and commercial operations; and the interface at 746 MHz between commercial operations in the Lower 700 MHz band and commercial operations in the Upper 700 MHz band. Under the BOP, the protection at each if these interfaces between potentially incompatible services is equivalent to, or greater than, the protection under the current band plan.

Like the current band plan, the BOP would require 1 MHz guard bands directly adjacent to both sides of public safety narrowband spectrum.[16] Unlike the current band plan, however, these guard bands would be *within* public safety spectrum and under public safety control, rather than taking the form of commercial guard bands controlled by commercial licensees. The BOP also would provide a 1.5 MHz "broadband-only" buffer (at 762.5-764/792.5-794 MHz) internal to public safety spectrum that has the effect of separating public safety non-broadband operations from commercial operations.[17] Under the BOP, public safety operations within this buffer would receive the same level of protection as commercial cellular operations in the Upper 700 MHz band. As a result, Public Safety can maximize the non-interfering use of this buffer spectrum based on the approach local conditions dictate. In some cases, Public Safety would deploy broadband systems compatible with commercial broadband systems, and in others where a different deployment approach is called for, they agree to accept interference levels from typical commercial broadband systems that are compliant with FCC rules.[18]

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14 NPSTC Feb. 22 Letter at 2.

15 Verizon Wireless Paper at 4-9.

16 Any public safety wideband use would be limited to the spectrum above 764/794 MHz. First TWG Report at 2-4.

17 Second TWG Report at 4-5.

18 *Id.*

Finally, Verizon Wireless is wrong in asserting, without citation, that the FCC "established a lower A block Guard Band at 746-747 MHz to separate these incompatible services."[19] The FCC did not create a guard band to separate the Lower 700 MHz C block from the Upper 700 MHz C block at 746-747 MHz, but instead placed the lower segment of the A Block at 746-747 MHz "to allow for a paired block" with the upper segment of the A Block at 776-777 MHz. It is the upper segment of the A Block at 776-777 MHz that the FCC intended as a guard band in order to provide a 1 MHz buffer between the commercial C Block and the adjacent public safety spectrum.[20] However, under the BOP, Public Safety would control a 1 MHz internal guard band at 775-776 MHz, thereby eliminating any need for a commercial guard band at 776-777 MHz. The elimination of the need for a 1 MHz commercial guard band at 776-777 MHz, in turn, eliminates the need for 1 MHz at 746-747 MHz to pair with it.

### B. The BOP Would Improve Interference Protections for Public Safety

Verizon Wireless is incorrect in its assertion that the BOP "would substantially increase the risk of interference to public safety."[21] To the contrary, the TWG concluded that the BOP would reduce that risk when compared to the current band plan and rules, which is the comparison that is relevant and important here.[22] In particular, the BOP would improve protections for Public Safety's critically important and more sensitive narrowband operations by placing under public safety users' control the 1 MHz guard bands at the upper end of the public safety narrowband spectrum.[23] Under these circumstances, Verizon Wireless' statement that the BOP would "not eliminate the risk of interference" to public safety operations[24] is a non-sequitur. No proponent of the BOP has ever suggested that the proposal would eliminate that risk, and no band plan (including the current one) could ever satisfy such an unrealistic standard.

In the Upper 700 MHz band, the TWG determined that the current band plan poses a significant risk of intermodulation interference to public safety narrowband operations.[25] The TWG, which included technical specialists from the public safety community and which reached findings that have been embraced by the public safety community, "concluded that implementation of the BOP would have a net decreasing effect on the risk of intermodulation interference to public safety narrowband operations."[26] Thus, Verizon Wireless has it exactly

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19 Verizon Wireless Paper at 3.

20 *Service Rules for the 746-764 and 776-794 MHz Bands, and Revisions to Part 27 of the Commission's Rules*, WT Docket No. 99-168, First Report and Order, 15 FCC Rcd 476, ¶ 34 (2000) ("*Upper 700 MHz First R&O*").

21 Verizon Wireless Paper at 2.

22 Second TWG Report at 7-8.

23 First TWG Report at 4-5.

24 Verizon Wireless Paper at 1.

25 Second TWG Report at 7.

26 *Id*.

backwards when it states that the BOP would "risk recreating the same kinds of interference problems that exist in the 800 MHz band."[27]

In fact, the issues facing the Upper 700 MHz band are very different from the problems of the 800 MHz band, and after implementation of the BOP, the 700 MHz band would be even more different. At 800 MHz, fully deployed commercial cellular operations and fully deployed non-cellular public safety operations existed on interleaved channels. The solution was to separate the public safety and commercial users with a 1 MHz guard band.[28] After implementation of the BOP, public safety narrowband systems would be protected by two 1 MHz guard bands controlled by Public Safety, and the narrowband systems would not be fragmented and interleaved with commercial spectrum as in the 800 MHz band. In addition, if the BOP is implemented, Access Spectrum and Pegasus have agreed to fund the re-location of the existing 700 MHz public safety systems.[29] Thus, the BOP would create a configuration with a distinct absence of the issues that have plagued the 800 MHz band.

The BOP also would provide sufficient protections for public safety non-narrowband operations. As is described briefly above, the BOP would provide a 1.5 MHz buffer (at 762.5-764/792.5-794 MHz) internal to public safety spectrum that separates public safety non-broadband operations from commercial operations.[30] Above that buffer, public safety broadband or wideband operations would enjoy the same protections from out-of-band emissions ("OOBE") that public safety operations currently receive from flexible-use commercial operations.[31] Thus, operations in the current public safety allocation (above 764/794 MHz) would receive the same protection from interference that it receives today; any broadband operations in the 1.5 MHz paired of buffer spectrum the BOP would add to the public safety allocation (762.5-764 and 792.5-794 MHz) would be protected only to the same extent as typical commercial operations are protected today.[32] Public Safety has accepted the responsibility to ensure that any system it deploys in that 1.5 MHz of buffer spectrum will perform adequately with traditional commercial block protections.

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[27] Letter from Donald C. Brittingham, Director – Spectrum Policy, Verizon Wireless to Marlene H. Dortch, Secretary, FCC, WT Dkt. No. 06-169, at 1 (Feb. 15, 2007).

[28] *Improving Public Safety Communications in the 800 MHz Band*, Report and Order, Fifth Report and Order, Fourth Memorandum Opinion and Order, and Order, WT Docket No. 02-55, 19 FCC Rcd 14969, ¶ 22 (2004).

[29] Comments of Access Spectrum and Pegasus, WT Dkt. No. 06-169, at 16-17 (Oct. 23, 2006) ("Access/Pegasus Oct. 23 Comments").

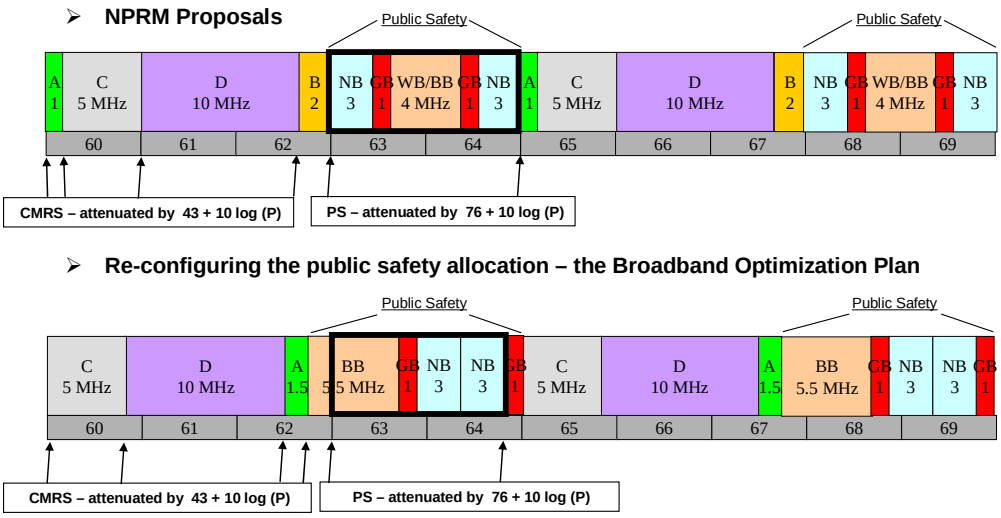
[30] Second TWG Report at 4-5.

[31] *Id*. at App. B (proposed OOBE rule); 47 C.F.R. § 24.53(c) (current OOBE rule).

[32] As discussed below, the TWG recommends that *only* broadband operations be permitted below 764/794 MHz.

## III. The BOP Would Provide Equal or Greater Interference Protection for Public Safety and Commercial Operations.

As noted above, the Verizon Wireless Paper raises concerns about potential interference at three distinct interfaces: at 776 MHz between public safety narrowband and commercial operations; at 762.5/792.5 MHz between public safety non-narrowband and commercial operations; and at 746 MHz between commercial operations in the Lower 700 MHz band and commercial operations in the Upper 700 MHz band. Compared to the interference risk at each of these interfaces under the current band plan, the BOP provides a net reduction in the risk of harmful interference to public safety operations and would improve or at least maintain the current interference conditions for commercial operations. Though it might seem counter-intuitive that re-organizing the band so that significantly less spectrum is dedicated to guard bands would improve interference protections, closer analysis reveals that this is precisely the case, because it makes the public safety allocation more rational: the BOP would isolate the more sensitive narrowband operations at one end of the allocation and would surround it with guard bands controlled by Public Safety. The graphic below serves as a pictorial representation of the discussion in the text that follows.[33]




### A. The Public Safety-Commercial Interface at 776 MHz

It appears that we may be in agreement with Verizon Wireless with regard to the 776 MHz interface. Verizon Wireless states that "[e]limination of [the upper A Block (at 776 MHz)] would risk harmful interference to public safety – if that spectrum is used by public safety."[34]

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33 The first chart depicts "NPRM Proposals," which are the proposals featured in the *Eighth NPRM*. *The Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Communications Requirements Through the Year 2010*, Eighth Notice of Proposed Rulemaking, 21 FCC Rcd 3668 (2006) (FCC 06-34) ("*Eighth NPRM*").

34 Verizon Wireless Paper at 13.

As a result, Verizon Wireless urges that "the Commission's rules . . . stipulate that . . . if [the spectrum at 775-776 and 805-806 MHz] were used that public safety licensees would not be entitled to any protection from harmful interference."[35] We agree, and so does Public Safety, that in the 775-776 MHz internal guard band, Public Safety would have to accept interference to the same extent as do current commercial guard band licensees.[36]

Currently, the upper segment of the A Block serves as a 1 MHz commercial guard band at 776-777 MHz, separating public safety narrowband operations from commercial operations in the C Block. As a result, public safety narrowband operations are directly adjacent to commercial operations in the A Block. Under the BOP, public safety narrowband operations would be separated by at least 1 MHz from *all* commercial operations, because the 1 MHz guard band would be within the public safety allocation. As a result of controlling the guard band, Public Safety would be able to leave that 1 MHz entirely unused, something that it cannot do today, because the A Block is licensed to others for commercial purposes. But even if Public Safety were to choose to use that 1 MHz of spectrum, the TWG has made clear that any such use would be protected from interference only to the extent that commercial operations in the Upper 700 MHz band are protected,[37] and Public Safety has accepted that view.[38] As Verizon Wireless stated, rules providing that public safety operations in the guard band at 776 MHz "would not be entitled to any protection from harmful interference" would ensure that "there would be no greater risk of interference than under the current rules since there would be 1 MHz of separation between [protected] public safety and the commercial C block."[39]

An additional benefit of the BOP is that the 1 MHz of spectrum at 805-806 MHz that otherwise would be paired with the internal public safety guard band at 776 MHz separates Upper 700 MHz band public safety narrowband operations from 800 MHz band public safety narrowband operations and need not be used as guard band at all. As a result, Public Safety could use 805-806 MHz for non-paired (simplex) communications, such as talk-around.[40] This is particularly helpful in emergency situations where many, varied public safety agencies converge in one location and the ability to communicate effectively is most important. Thus, not only would the BOP improve interference protections for Public Safety at 776 MHz, but it would also provide a new and distinct benefit for these types of applications.

For commercial operators at the 776 MHz interface, the BOP would improve or at least maintain the current interference conditions. Under the current band plan, commercial operations in the C Block (777-782 MHz) must attenuate base transmitter power (P) by at least

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35 *Id*.

36 Second TWG Report, App. B (proposed OOBE rules).

37 *Id*.

38 NPSTC Feb. 22 Letter (agreeing with analysis of Second TWG Report).

39 Verizon Wireless Paper at 13.

40 First TWG Report at 4.

76 + 10 log (P) inside public safety narrowband spectrum, which begins at 776 MHz.[41] In other words, C Block operators must apply filters and take other steps to ensure that the power of the signal generated in the C Block is attenuated to the required level in spectrum only 1 MHz away from the C Block's nearest edge. Under the BOP, both the required level of attenuation inside public safety spectrum (76 + 10 log (P)) and the amount of spectrum within which that level must be reached (1 MHz) would be the same as under current rules.[42] As described above, that 1 MHz separation would be an internal public safety guard band that would receive no greater protection from interference than would operations in the flexible use commercial spectrum. In addition, because Public Safety would likely use the spectrum at 805-806 MHz for simplex communications, the spectrum at 775-776 MHz that otherwise would be paired with 805-806 MHz likely would be left unused. Verizon Wireless is therefore incorrect in arguing that "protected public safety operations in the [775-776 MHz guard] band would effectively shift the guard band into the commercial C block and reduce the effective capacity available to the C block licensee."[43] C Block systems under the BOP would be free to operate at 776 MHz just as they would under the current rules.

### B. The Public Safety-Commercial Interface at 762.5/792.5 MHz

#### 1. The Internal Public Safety 1.5 MHz Paired Buffer

One critical change the BOP would make to the current band plan to facilitate the creation of public-private partnerships would be the placement of commercial broadband spectrum directly adjacent to public safety broadband spectrum at 762.5/792.5 MHz. The 1.5 MHz paired located at 762.5-764/792.5-794 MHz would be buffer spectrum internal to the public safety allocation in which only broadband operations would be permitted (*i.e.* neither narrowband nor wideband). Any public safety operation in this 1.5 MHz would be protected from commercial interference only to the same extent as its commercial neighbor is protected from commercial interference.

Verizon Wireless alleges that under such a configuration, a cellular commercial operation could cause undue interference to an adjacent non-cellular public safety operation at the 762.5/792.5 MHz interface.[44] This allegation misses the point, however, because by supporting the BOP, Public Safety has *agreed to accept* traditional CMRS protections in the 1.5 MHz paired above the 762.5/792.5 MHz interface. Thus, in areas where Public Safety will deploy "commercial-like" systems[45] (likely to be in urban/suburban areas), Public Safety would be free to deploy across the full broadband allocation. By contrast, in the areas where Public Safety

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41 47 C.F.R. § 27.53(c)(3). Mobile transmitter power (P) must be attenuated by at least 65 + 10 log (P) inside public safety narrowband spectrum. 47 C.F.R. § 27.53(c)(4).

42 Second TWG Report, App. B (proposed OOBE rules).

43 Verizon Wireless Paper at 13.

44 *Id.* at 11.

45 As used herein, "commercial-like" systems means networks that use commercial technologies and become increasingly similar to the low-site cellular systems expected to be deployed by commercial licensees.

would deploy wideband or non-cellular broadband systems (likely in rural areas), Public Safety would need to "back off" the edge of its allocation—creating a self-imposed guard band within its own spectrum—or accept the interference from the commercial neighbor.[46] Further, if the adjacent commercial and public safety licensees were to form a partnership, Public Safety would be able make the most of its spectrum by maintaining pass-band power levels right up to the 762.5/792.5 MHz interface, which could allow deployment of additional channels. In any event, under the BOP, the commercial licensee at the 762.5/792.5 MHz interface would not be obligated to use any of its spectrum to provide a guard band for Public Safety.

### 2. The BOP Would Provide Equal or Greater Interference Protection for Public Safety Operations Outside the 1.5 MHz Buffer

The current rules require that flexible-use commercial operations in the Upper 700 MHz band attenuate base transmitter power (P) by at least 76 + 10 log (P) and mobile transmitter power (P) by at least 65 + 10 log (P) inside public safety spectrum above 764 and 794 MHz, regardless of whether it is used for narrowband or non-narrowband operations. The BOP would retain this requirement, thereby maintaining OOBE protections for public safety narrowband and non-narrowband operations at current levels.[47] As described above, however, the 1.5 MHz paired spectrum that the BOP would add to the public safety allocation (*i.e.* the internal buffer segment) would not receive this level of OOBE protection.[48] Thus, the level of OOBE protection for operations in the current public safety allocation would not be changed by the BOP.

More importantly, whereas under the current band plan, public safety narrowband operations are directly adjacent to commercial operations in the B Block and only 2 MHz away from commercial operations in the D Block, the BOP would relocate public safety narrowband operations away from the bottom of the public safety allocation, placing 6.5 MHz of spectrum between public safety narrowband operations and *all* commercial operations below the public safety allocation. This change would improve interference protection for public safety narrowband operations, particularly from harmful intermodulation interference to which public safety's narrowband receivers are particularly sensitive.[49] As described by the TWG, "Intermodulation interference is caused when a receiver picks up two or more relatively strong signals on undesired frequencies that intermodulate or mix within the receiver to create a third

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[46] Second TWG Report at App. B (proposed OOBE rule), App. D (proposed repeal of the cellular architecture prohibition).

[47] Current rules apply these OOBE protections to the full 12 MHz paired of public safety spectrum; because the BOP would internalize a guard band within public safety spectrum, it would not apply the current OOBE restrictions to the 1 MHz of spectrum from 775-776 MHz. Second TWG Report at App. B (proposed OOBE rule).

[48] The new 1.5 MHz paired public safety spectrum would be protected only to the same extent as commercial spectrum in the band: the power (P) of any emission from commercial operations would have to be attenuated by at least 43 + 10 log (P) within the 1.5 MH paired from 762.5-764/792.5-794 MHz. *Id.*

[49] Second TWG Report at 5-7.

interfering signal that overpowers the relatively weak signal on the desired frequency."[50] In order for such a scenario to occur, at least one of the undesired signals must be on a frequency within a few MHz of the desired frequency. Under the current band plan, both of the unwanted signals would be generated in the commercial D and/or B Blocks; by imposing the 6.5 MHz separation, however, the BOP would ensure that for intermodulation to occur, at least one of the intermodulating signals would be a public safety signal.[51] As a result, under the BOP, Public Safety would be able to control its system design and deployments to avoid intermodulation interference.[52] In addition, under the BOP, Public Safety would be able to further reduce intermodulation interference to its narrowband operations by deploying improved filters, receivers and antennae that limit the energy the narrowband receivers accept outside the narrowband channels; under the current configuration, in which the narrowband spectrum is located at both the top and bottom of the public safety allocation, these new technologies would not provide the same benefit.

It should be noted, however, that while public safety broadband/wideband operations would continue to receive full public safety protection at 764/794 MHz, and broadband and wideband technologies are much better equipped to resist intermodulation interference than narrowband, there are a few circumstances in which intermodulation interference could be slightly worse for public safety *wideband or broadband* operations.[53] However, since the effect is slight and applies primarily to wideband deployments (which are more likely to be deployed in rural areas where the adjacent commercial broadband spectrum is less likely to be in use), the TWG concluded that "the other technical advantages of the BOP far outweighed any disadvantage associated with this slight potential increase in interference."[54]

As noted above, Verizon Wireless also expresses concern that a cellular commercial operation on spectrum directly adjacent to a non-cellular public safety operation could cause interference to the public safety operation. Verizon Wireless posits that the risk under such a configuration is that a "near-far" scenario would develop, in which a non-cellular public safety receiver is too close to a commercial cellular transmitter and thus the undesired commercial signal is so strong that it would overwhelm the receiver, making it unable to "hear" a distant, and thus relatively weak, desired signal.[55] Under the BOP, however, such a scenario would not

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50 *Id*. at 6.

51 *Id*. at 7.

52 *Id*.

53 *Id*. at 2 n.5.

54 *Id*.

55 Verizon Wireless Paper at 5-7. In arguing for buffer spectrum between commercial operations and adjacent public safety operations to address the "near-far" issue, Verizon Wireless relies heavily on work done eight years ago by Motorola in the FCC proceeding that established the current Upper 700 MHz band plan. Verizon Wireless Paper at 5-8. Motorola has actively participated in the TWG and has expressed its support for a slightly modified version of the BOP. Second TWG Report at 2; Letter from Steve B. Sharkey, Director, Spectrum and Standards Strategy, Motorola Inc. to Marlene H. Dortch, Secretary, FCC, WT Docket Nos. 96-86, 06-150, and 06-169, Attachment at 6 (Oct. 4, 2006).

develop, because, as explained above, Public Safety would not be permitted to deploy a system in the 1.5 MHz paired buffer spectrum directly adjacent to the commercial operator unless the public safety system were compatible with the adjacent commercial operation, or Public Safety was willing to accept the interference. This would apply to broadband systems; as part of its work in the TWG, Public Safety has already agreed not to deploy narrowband or wideband systems in the 1.5 MHz buffer spectrum.[56]

Finally, Verizon Wireless suggests that "it is possible" that commercial licensees in the Upper 700 MHz band may deploy non-cellular architecture, and that such deployments might cause harmful interference to adjacent cellular public safety broadband operations.[57] If Verizon Wireless produced technical analyses showing that the traditional CMRS rules are not sufficient, there also would be significant implications for commercial spectrum blocks adjacent to other commercial blocks. Instead, Verizon Wireless enthusiastically supports the existing commercial rules.[58] Specifically, if a non-cellular commercial operation would be a threat to an adjacent cellular public safety operation, then presumably it would also cause harmful interference to an adjacent cellular commercial operation. If Verizon Wireless were correct, guard bands would be necessary between all commercial blocks to protect commercial operations from each other in the event that one of them should adopt a non-cellular architecture, particularly in light of "the uncertainty associated with commercial deployments."[59] Such a change would drastically reduce the amount of spectrum available for commercial use, a prospect that Verizon Wireless finds unattractive.[60] Simply put, Verizon Wireless' embrace of the current commercial rules as sufficient to protect the C and D Blocks from interference should indicate that those rules would be adequate for the BOP interfaces between the D and A Blocks, and the A Block and the public safety broadband allocation. In the alternative, the FCC could take the radical step of requiring that commercial operations in the Upper 700 MHz band deploy cellular architectures, something that would be counter to the FCC's preference for flexible deployment rights. The BOP would respect the flexibility the current rules afford commercial operations and would apply to the new A Block and the new 1.5 MHz paired buffer spectrum the same rules that currently exist for the C and D Blocks.

### 3. The BOP Would Improve or at Least Maintain Interference Conditions for Commercial Operations

For commercial operators in the Upper 700 MHz band, the interference conditions under the BOP would as good or better under the BOP as under the current rules. First, it would be easier for operations in the commercial D Block to meet OOBE rules. Under the current rules, operations in the commercial D Block must meet the more restrictive OOBE limit (76 + 10 log (P) for base transmit) inside public safety spectrum at 764/794 MHz, 2 MHz away from the

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56 First TWG Report at 12.

57 Verizon Wireless Paper at 11.

58 Comments of Verizon Wireless, WT Docket Nos. 06-150 and 01-309, CC Docket No. 94-102 at 1 (Sept. 29, 2006).

59 Verizon Wireless Paper at 11-12.

60 *Id.* at 9.

nearest edge of the D Block. Under the BOP, however, operations in the commercial D Block would have to meet those same OOBE limits inside public safety spectrum above 764/794 MHz, but 764/794 MHz would be 3 MHz away from the D Block band edge.[61] Further, rather than being 2 MHz away from non-cellular, and highly sensitive public safety *narrowband* operations, the D Block would be 3 MHz away from any non-cellular public safety *wideband/broadband* operations. As previously noted, the BOP would reduce the potential for significant intermodulation interference from the D Block into the public safety narrowband operations that exists under the current band plan and rules.[62]

The new A Block licensees would also have to meet the more restrictive OOBE limit at 764/794 MHz, which is 1.5 MHz away from the new A Block band edge. The new A Block would be held largely by the entities that proposed the BOP originally (the current A and B Block licensees, including both Access Spectrum and Pegasus). The TWG process has given these licensees sufficient confidence in the TWG's analysis that they are willing to be located directly adjacent to public safety spectrum.

As stated above, the licensees in the new A Block would not have to meet the more restrictive OOBE standard in the 1.5 MHz buffer spectrum at 762.5-764/792.5-794 MHz, nor would they be required to provide public safety operations in that buffer space any greater protection than if the buffer spectrum were designated for flexible commercial use. The TWG makes this point explicit when it says "the BOP would apply commercial cellular OOBE rules inside the lower 1.5 MHz paired of public safety spectrum . . ., effectively placing 1.5 MHz separation between commercial broadband and any non-cellular public safety operations."[63] By endorsing the TWG's report, Public Safety has accepted that licensees in the new A Block may deploy cellular operations and that such cellular operations only need to limit OOBE into the 1.5 MHz buffer spectrum to the extent that they would limit OOBE into commercial spectrum.[64]

#### 4. The BOP Would Place Commercial Broadband Operations Adjacent to Public Safety Broadband Spectrum and Would Facilitate Partnerships

As the Commission recognized in the *Ninth NPRM*, public-private partnerships would enable Public Safety to enjoy commercial economies of scale and leverage commercial infrastructure.[65] Without addressing the impact on partnerships, Verizon Wireless urges the FCC

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61 Second TWG Report, App. B (proposed OOBE rule).

62 One additional benefit of the BOP is that by reducing the potential for significant interference, it would increase the value of the D Block.

63 Second TWG Report at 5.

64 NPSTC Feb. 22 Letter; Second TWG Report, Apps. B and D.

65 *Implementing a Nationwide, Broadband, Interoperable Public Safety Network in the 700 MHz Band; Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Communications Requirements Through the Year 2010*, PS Docket No. 06-229, WT Docket No. 96-86, Ninth Notice of Proposed Rulemaking, 21 FCC Rcd 14837, ¶¶ 42-43 (2006) ("*Ninth NPRM*").

to retain the current use-limited commercial guard bands at 764/794 MHz.[66] Verizon Wireless' proposal would reduce the likelihood that such partnerships are created.

Both the Commission and Public Safety recognize that partnerships with commercial operators will be important to Public Safety's ability to achieve broadband capabilities.[67] Commercial entities will be more likely to enter into such partnerships if infrastructure can be shared cost-effectively, but Verizon Wireless' proposal to retain the current limited-use commercial guard bands would result in the deployment of narrowband systems incompatible with Public Safety's broadband goals and would impede shared broadband networks. As a result, retaining the current commercial guard bands would obstruct the formation of public-private partnerships.

The BOP's placement of commercial broadband operations directly adjacent to public safety broadband operations at the 762.5/792.5 MHz interface is crucial to the facilitation of such partnerships. Under the BOP, a public-private partnership would be able to operate across adjacent spectrum. Rather than reducing transmission power in order to reach required levels at the edge of the commercial block, the BOP would enable the commercial partner to keep its signal at pass-band levels right up to the 762.5/792.5 interface. These benefits increase the likelihood that a commercial entity will be drawn to a partnership with Public Safety. Further, the possibility of public-private partnerships is likely to be particularly attractive to new entrants, who will likely value the possibility of Public Safety serving as a new, stable and well-paying customer base, thereby enabling the commercial entity to place a higher bid for the commercial spectrum at auction. As a result, the BOP's promotion of such partnerships could provide an additional and important incentive to new operators to enter and compete in the market against Verizon Wireless and other incumbents. New market entrants may also be more likely to deploy 4G technologies and deploy a robust network sooner than incumbents, thus benefiting their public safety partners. Hence, optimizing the band for public-private partnerships is good both for Public Safety and for the promotion of competition in today's wireless broadband market.

### D. The Interface at 746 MHz Between the Lower and Upper 700 MHz Bands

The last of the three interfaces at which Verizon Wireless claims the BOP would create a problem is at 746 MHz, between the Upper and Lower 700 MHz bands. Under the current band plan, the lower segment of the A Block is located between the Lower 700 MHz C Block and the Upper 700 MHz C Block. The BOP would relocate the A Block, placing the two C Blocks on directly adjacent spectrum. This issue was raised for consideration by CTIA in its comments in the Guard Band proceeding on October 23,[68] and Access Spectrum and Pegasus addressed the

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66 Verizon Wireless Paper at 16.

67 *Ninth NPRM*, ¶¶ 3-4 (FCC proposal including public-private infrastructure sharing "may best promote the rapid deployment of a nationwide, interoperable, broadband public safety network"); Reply Comments of the National Association of Regional Planning Committees, WT Docket No. 96-86, at 8-10 (July 6, 2006).

68 Comments of CTIA – The Wireless Association, Dkt. No. 06-169, at 4 (Oct. 23, 2006).

issue in their reply comments on November 13.[69] The lower segment of the A Block is neither intended nor necessary to protect against harmful interference and current rules provide sufficient protection.

Verizon Wireless contends that unless the lower A Block segment is retained, high-site broadcast transmissions permitted in the Lower 700 MHz band at power levels up to 50 kW would either "result in significant harmful interference to commercial mobile operations in the Upper Band" or require the lower C Block in the Upper 700 MHz band to sacrifice 1 MHz of its spectrum as an internal guard band.[70] Indeed, Verizon Wireless claims, without supporting citation, that the very reason why the FCC created the lower segment of the A Block was to "minimize such interference . . . [and] to separate the Upper and Lower 700 MHz bands and the potentially dissimilar services that might be deployed there."[71] This is not accurate. In fact, the Commission created the A and B Blocks "in order to protect the immediately adjoining *public safety* licensees . . . from harmful interference,"[72] not to protect adjacent commercial operations. Thus, the FCC established the upper segment of the A Block as a 1 MHz guard band at 776-777 MHz to protect public safety operations from otherwise adjacent commercial operations. The Commission placed the other 1 MHz segment of the A Block at 746-747 MHz in order "to allow for a paired block,"[73] so that A Block licensees could deploy FDD technologies that require paired spectrum. It was *not* created to separate "incompatible services" in the Upper and Lower 700 MHz bands.[74]

With no supporting evidence from the FCC's Order, Verizon Wireless seeks to bolster its argument by citing to a series of Motorola filings from 1999 and 2000.[75] Verizon Wireless implies that Motorola was advocating for guard bands because of the interference potential between dissimilar systems. Motorola's concern and supporting analysis, however, dealt with the *776 MHz* interface between public safety narrowband operations and commercial systems.[76] By contrast, Motorola's concern at the *746 MHz* interface was with existing high-powered television broadcast systems operating on Channel 59 that are not governed by the rules that apply to the existing Lower 700 MHz C Block licensees.[77] In 1999 and 2000, there was no "hard

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69 *See* Reply Comments of Access Spectrum and Pegasus, WT Dkt. No. 06-169 (Nov. 13, 2006) at 16-18.

70 Verizon Wireless Paper at 9.

71 *Id*.

72 *Upper 700 MHz First R&O*, ¶ 34 (emphasis added).

73 *Id.*

74 Verizon Wireless Paper at 3.

75 *Id*. at 5.

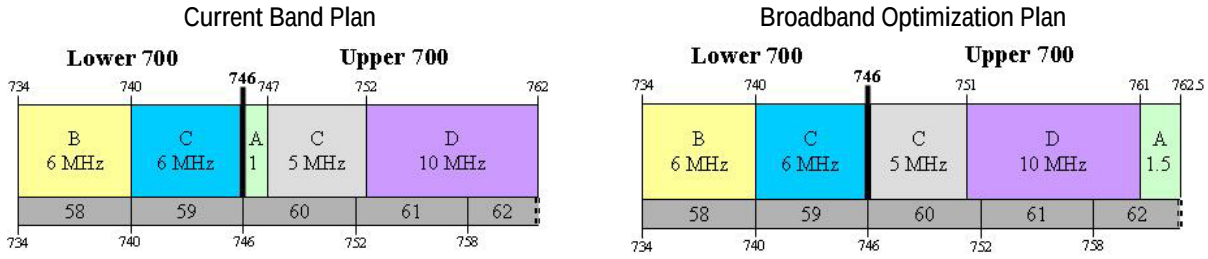
76 *See, e.g.,* Letter from Robert L. Pettit, Counsel for Motorola, Inc. to Magalie Roman Salas, Secretary, FCC, WT Docket No. 99-168, Att. at 1 (Jan. 24, 2000); Comments of Motorola, Inc., WT Docket No. 99-168, App. A, Att. (entitled "Interference from Cellular-Like Systems into Public Safety Systems").

77 *See, e.g.,* Reply Comments of Motorola, WT Docket No. 99-168, at 20 (Aug. 13, 1999).

date" for the DTV transition. Today, given the "hard date" for the DTV transition is set for early 2009, this concern is moot.

The lower segment of the A Block is not necessary to protect commercial service in either the Upper or Lower 700 MHz bands. Current rules are sufficient to protect against interference between operators in the two bands, despite their different height and power requirements, even assuming implementation of the BOP.

Interface of Upper and Lower 700 MHz Bands at 746 MHz




Current rules contemplate low-power, low-site broadband operations, both FDD and TDD, in both the Upper 700 MHz band and the Lower 700 MHz band.[78] Thus, low-power, low-site operations in the Upper 700 MHz C Block would pose no greater risk of interference to the Lower 700 MHz C Block than already exists under current rules from adjacent operations in the Lower 700 MHz B Block. Similarly, low-power, low-site operations in the Lower 700 MHz C Block would pose no greater risk of interference to the Upper 700 MHz C Block than already exists under current rules from adjacent operations in the current commercial Upper 700 MHz A Block or the Upper 700 MHz D Block.

Current rules also contemplate high-power, high-site operations in the Lower 700 MHz band, subject to a power flux density ("PFD") limitation.[79] Both the Upper and Lower 700 MHz

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[78] Base and fixed stations in the Upper 700 MHz commercial spectrum may not exceed 1 kW effective radiated power ("ERP") at antenna heights of 305 meters height above average terrain, although higher antennas are permitted for lower power levels; higher power levels are prohibited. 47 C.F.R. § 27.50(b)(1)-(3). As a result, Upper 700 MHz commercial operations may be either low-power, low-site or low-power, high-site. In the Lower 700 MHz band, the same height flexibility applies for base and fixed stations below 1 kW ERP. 47 C.F.R. § 27.50(c)(1)(i). *See Reallocation and Service Rules for the 698-746 MHz Spectrum Band (Television Channels 52-59)*, Report and Order, 17 FCC Rcd 1022, ¶¶ 80 and 74 n.210 (2001) (*"Lower 700 MHz Report & Order"*).

[79] In the Lower 700 MHz band, base and fixed stations are permitted to have power levels above 1 kW, not to exceed 50 kW ERP. Such high-power stations are not subject to specific height restrictions, but they must comply with a PFD limitation of 3,000 microwatts per square meter on the ground within 1 kilometer from the antenna. 47 C.F.R. §§ 27.50(c)(1), 27.55(b). Thus, Lower 700 MHz operations may also be high-power, high-site, as long as they comply with the PFD limitation.

C Blocks are subject to the same out-of-band emissions limits under current rules.[80] As a result, emissions from high-power, high-site Lower 700 MHz C Block operations would be limited in the Upper 700 MHz C Block to the same extent as all emissions from the adjacent Upper 700 MHz A Block and the Upper 700 MHz D Block. The higher power threshold in the Lower 700 MHz band would not result in increased "near-far" issues because of the PFD requirement that applies to such high-power transmissions.[81] Specifically, the PFD requirement would result in "PFD levels that are no greater than the PFD levels that would ordinarily occur from stations operating at" low-power.[82] As a result, the current combination of out-of-band emissions and PFD limits provides the Upper 700 MHz C Block similar "near-far" protection from high-power, high-site transmissions from the Lower 700 MHz C Block as already exists with regard to all transmissions from operations in the Upper 700 MHz A Block or Upper 700 MHz D Block. Since the level of protection provided by the Lower 700 MHz OOBE restrictions and PFD limits is sufficient to protect adjacent Lower 700 MHz low-power operations, it should also be sufficient for adjacent Upper 700 MHz low-power operations.[83]

## IV. For Public Safety, the Alternative Suggested by Verizon Wireless Lacks Many of the Virtues of the BOP and Fails to Satisfy Certain Pre-Conditions that Must be Addressed in Order to Consider Adjustments to the Public Safety Band Plan

Verizon Wireless suggests that there is merit in consolidating public safety narrowband operations at the upper end of the public safety allocation as proposed in the BOP, but without adopting the other features of the BOP, including increasing the size of the public safety allocation and making all commercial spectrum subject to the same rules.[84] As suggested by the broad consensus in the record in support of the immediate adoption of the BOP,[85] the BOP is far superior to the Verizon Wireless alternative. Indeed, the record contains no support from any single public safety entity for adopting the Verizon Wireless alternative, and in response to Verizon Wireless' letter, NPSTC re-affirmed that it opposes Verizon Wireless's analysis.[86] Verizon Wireless leaves out critical information when it states that "[t]he public safety community has endorsed this proposed band reconfiguration;"[87] Public Safety endorsed the

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80 47 C.F.R. § 27.53(c) and (f).

81 47 C.F.R. §§ 27.50(c)(1)(ii), 27.55(b) (fixed and base transmissions in the Lower 700 MHz C Block may have a higher power level (between 1,000 watts and 50 kW ERP) as long as such transmissions do not exceed a PFD of 3,000 microwatts per square meter on the ground in an area extending 1 kilometer from the base of the antenna mounting structure).

82 *Lower 700 MHz Report & Order* ¶ 104.

83 It should be noted that PFD limits address the "near-far" problem because they restrict the power level *on the ground* to protect adjacent systems. As a result, differences in ERP, which is measured at the *transmitter*, are not relevant to "near-far" issues. Verizon Wireless Paper at 9 (claiming that differences in ERP "can result in significant harmful interference").

84 Verizon Wireless Paper at 15-16.

85 *See* note 3, *supra*, for a list of entities supporting the Broadband Optimization Plan.

86 NPSTC Feb. 23 Letter at 3.

87 Verizon Wireless Paper at 3 (citing NPSTC Dec. 6 Letter).

*entire BOP proposal*,[88] not the consolidation of the narrowband spectrum in isolation, and not the consolidation proposed by Verizon Wireless. In fact, the NPSTC letter cited by Verizon Wireless actually refers to NPSTC's endorsement of the First TWG Report, which specifically refers to the BOP and details how the BOP resolves the very issues the Verizon Wireless alternative fails to address, as further explained below.[89]

A key factor in the strong support for adopting the BOP is the significant work conducted by the TWG to analyze the BOP and resolve potential technical issues. The TWG began its work nine months ago and has thoroughly analyzed the technical implications of the BOP for Public Safety, ultimately finding that there are no technical issues remaining that would prevent adoption of the BOP by the FCC.[90] As NPSTC stated, "The detailed analysis of the proposal that emerged indicates how public safety and commercial services can coexist. Verizon's analysis fails to address these details."[91] The Verizon Wireless alternative, by contrast, has undergone no such rigorous technical analysis. Indeed, such an analysis would have revealed that the Verizon Wireless alternative, if adopted, would scuttle efforts to increase the size of the public safety allocation and to provide broadband capabilities to Public Safety throughout the United States, including the regions that border Canada, such as New York State.[92]

The Verizon Wireless alternative is inferior for a number of reasons, but chief among them are the inefficient use of spectrum, the elimination of guard bands controlled by Public Safety, and the failure to resolve issues associated with both the Canadian border region and the reprogramming of the existing 700 MHz systems. First, the Verizon Wireless alternative would not add spectrum to the public safety allocation, and as a result the amount of public safety spectrum available for broadband would be reduced, since at least 1 MHz paired of the 6 MHz paired of non-narrowband spectrum would have to be used for an internal guard band to separate public safety broadband and narrowband operations. Thus, at the outset, the Verizon Wireless

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88 *See, e.g.*, NPSTC Feb. 22 Letter at 1 ("the guard band licensee proposal should be at the forefront of any action by the Commission addressing the 700 MHz band."); NPSTC Feb. 23 Letter at 1 ("NPSTC has endorsed the guard band licensee proposal."); Letter from Stephen T. Devine, Chairperson, Region 24 700 MHz Regional Planning Committee to Kevin J. Martin, Chairman, FCC, WT Docket Nos. 96-86, 06-150 and 06-169, and PS Docket No. 06-229 (Jan. 24, 2007) (letter signed by 20 Regional Planning Committee chairmen urging adoption of the BOP).

89 NPSTC Dec. 6 Letter ("After discussing the [first] TWG report, there was a consensus at the NPSTC meeting to embrace the report's summary and conclusions.").

90 *See* Second TWG Report at 8.

91 NPSTC Feb. 23 Letter at 3.

92 In a recent *ex parte* presentation, Access Spectrum and Pegasus provided a critique of an Alcatel-Lucent proposal that proposes to consolidate the public safety narrowband channels without increasing the size of the public safety allocation. Aspects of that critique are applicable also to the Verizon Wireless alternative discussed herein. Letter to Marlene H. Dortch, FCC Secretary, from Ruth Milkman, Counsel to Access Spectrum, LLC, and Kathleen Wallman, Adviser to Pegasus Communications Corporation, WT Docket Nos. 96-86 and 06-169 (Feb. 14, 2007).

alternative would provide at least 1 MHz less public safety broadband spectrum and 3 MHz less public safety spectrum overall, than would the BOP.

Verizon Wireless also would use commercial spectrum inefficiently by retaining the use of commercial guard bands. This aspect of the Verizon Wireless alternative would not only reduce the amount of spectrum available for commercial broadband services, but it also would prevent Public Safety from controlling the usage of the guard bands. Retaining the commercial guard bands would separate Public Safety and commercial broadband neighbors, thereby impeding public-private partnerships. The BOP, as explained above, would free all commercial spectrum for flexible use, would put all guard bands under public safety control, and would place Public Safety and commercial broadband neighbors on adjacent spectrum to foster partnerships. Overall, adopting the BOP would result in an additional 3 MHz of spectrum nationwide for commercial broadband use (a 10% increase in capacity) and would reduce the total amount of Upper 700 MHz band spectrum dedicated to "guard bands" from 10 MHz to 3 MHz.

The Verizon Wireless alternative also fails to address the Canadian border, equipment reprogramming and spectrum planning database issues, the resolution of which Public Safety identified as a pre-condition of support for the consolidation of the narrowband spectrum.[93] Because Canada has not agreed to clear TV broadcasters from Channels 64 and 69, U.S. public safety agencies in the border region cannot use those channels for narrowband operations. The Verizon Wireless alternative, however, would place the entire narrowband allocation in Channels 64 and 69, making it impossible for U.S. public safety entities in border states to deploy interoperable narrowband systems as under the current band plan. Under the BOP, by contrast, a segment of current narrowband spectrum in Channels 63 and 68 would still be designated for narrowband operations, including sufficient spectrum for the essential and mission-critical interoperability channels, thus providing a solution enabling Public Safety to deploy interoperable narrowband systems and implement a nationwide transition to the BOP, including in the Canadian border region.[94]

The BOP also would add 3 MHz of spectrum to the public safety allocation, which would enable border states and regions to incorporate broadband into both their short-term and long-term plans. At present, in some areas United States public safety entities have priority on only about 30% of the spectrum (*e.g.*, upper New York State).[95] Thus, adding 3 MHz of broadband spectrum to Public Safety's allocation has a significant impact on the efficacy of these systems. For these reasons, in addition to the general benefits that the BOP provides, New York State, which is in the midst of deploying a comprehensive system, strongly supports the BOP. The Verizon Wireless alternative would not address the needs of border states.

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93 *See, e.g.*, Comments of the National Public Safety Telecommunications Council, WT Docket Nos. 06-169 and 96-86, at 7 (Oct. 23, 2006); Letter to Catherine Seidel, Acting Chief, Wireless Telecommunications Bureau, FCC, from Wanda McCarley, President, APCO International, Harlin R. McEwen, Chairman, IACP Communications & Technology Committee, and Alan Caldwell, Senior Advisor, Government Relations, International Association of Fire Chiefs, WT Docket No. 96-86 (July 31, 2006).

94 First TWG Report at 10-12.

95 *Id*. at 16 and 19.

Finally, Access Spectrum and Pegasus have committed to fund the expenses related to converting any existing 700 MHz narrowband public safety systems and updating the spectrum planning database ("CAPRAD"), contingent upon the adoption of the BOP.[96] Access Spectrum and Pegasus are not willing to fund the system conversion or CAPRAD expenses related to the narrowband consolidation, nor relinquish their B Block licenses, if the Verizon Wireless alternative is adopted.

As NPSTC definitively notes in its letter of February 23, 2007,[97] the Verizon Wireless proposal is not a valid alternative to the BOP: it does not provide additional spectrum to the public safety allocation, it fails to meet key criteria crucial to Public Safety, it would not use spectrum efficiently, and it has not undergone adequate technical review.

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96 *See* Access/Pegasus Oct. 23 Comments at 16-17.

97 NPSTC Feb. 23 Letter at 3 & n.1 ("While objecting to the guard band licensee proposal, Verizon urges that the public safety narrowband channels be relocated. As shown above, the relocation entails numerous challenges, all of which are resolved by the proposal [the BOP]. Verizon addresses none of them; its recommendation should be rejected.").

## V. Conclusion

For the reasons described herein, and most notably because Public Safety supports the BOP and specifically opposes any inferior "alternatives," Access Spectrum and Pegasus urge the Commission to adopt the BOP immediately and to reject Verizon Wireless' objection.

Pursuant to the Commission's rules, this letter is being submitted for inclusion in the public record in the above-referenced proceedings.

Respectfully submitted,


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